RAW SEQUENCE LISTING DATE: 05/21/2002
PATENT APPLICATION: US/09/558,421 TIME: 14:15:59

Input Set : N:\Crf3\RULE60\09558421.raw
Output Set: N:\CRF3\05212002\I558421.raw

SEQUENCE LISTING

3	(1)	GENERAL INFORMATION:
5	(i)	APPLICANT: Chatterjee, Deb K.
7	(ii)	TITLE OF INVENTION: Mutant DNA Polymerases and Uses Thereof
9	(iii)	NUMBER OF SEQUENCES: 43
11	(iv)	CORRESPONDENCE ADDRESS:
12		(A) ADDRESSEE: STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
13		(B) STREET: 1100 New York Avenue, N.W., Suite 600
14		(C) CITY: Washington
15		(D) STATE: DC
16		(E) COUNTRY: USA
17		(F) ZIP: 20005
19	(v)	COMPUTER READABLE FORM:
20		(A) MEDIUM TYPE: Floppy disk
21		(B) COMPUTER: IBM PC compatible
22		(C) OPERATING SYSTEM: PC-DOS/MS-DOS
23		(D) SOFTWARE: PatentIn Release #1.0, Version #1.30
25	(vi)	CURRENT APPLICATION DATA:

C--> 26 **(A) APPLICATION NUMBER: US/09/558,421**
C--> 27 **(B) FILING DATE: 26-Apr-2000**

28		(C) CLASSIFICATION:
39	(vii)	PRIOR APPLICATION DATA:
31		(A) APPLICATION NUMBER: US/08/576,759
32		(B) FILING DATE:
36		(A) APPLICATION NUMBER: US 08/525,057
37		(B) FILING DATE: 08-SEP-1995
40		(A) APPLICATION NUMBER: US 08/537,397
41		(B) FILING DATE: 02-OCT-1995
43	(viii)	ATTORNEY/AGENT INFORMATION:
44		(A) NAME: Esmond, Robert W.
45		(B) REGISTRATION NUMBER: 32,893
46		(C) REFERENCE/DOCKET NUMBER: 0942.3600002
48	(ix)	TELECOMMUNICATION INFORMATION:
49		(A) TELEPHONE: 202-371-2600
50		(B) TELEFAX: 202-371-2540
53	(2)	INFORMATION FOR SEQ ID NO: 1:
55	(i)	SEQUENCE CHARACTERISTICS:
56		(A) LENGTH: 40 base pairs
57		(B) TYPE: nucleic acid
58		(C) STRANDEDNESS: both
59		(D) TOPOLOGY: both
61	(ii)	MOLECULE TYPE: cDNA
66	(xi)	SEQUENCE DESCRIPTION: SEQ ID NO: 1:

ENTERED

RAW SEQUENCE LISTING   DATE: 05/21/2002
PATENT APPLICATION: US/09/558,421   TIME: 14:15:59

Input Set : N:\Crf3\RULE60\09558421.raw
Output Set: N:\CRF3\05212002\I558421.raw

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 68 CAGGATCCAC ATGGTGCTTA ACGGCGACAT CCACACTAAG                           40
 70 (2) INFORMATION FOR SEQ ID NO: 2:
 72      (i) SEQUENCE CHARACTERISTICS:
 73           (A) LENGTH: 27 base pairs
 74           (B) TYPE: nucleic acid
 75           (C) STRANDEDNESS: both
 76           (D) TOPOLOGY: both
 78     (ii) MOLECULE TYPE: cDNA
 83     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
 85 GTTAACTTCT TGTGCGGTCT CAATGAC                                          27
 87 (2) INFORMATION FOR SEQ ID NO: 3:
 89      (i) SEQUENCE CHARACTERISTICS:
 90           (A) LENGTH: 11 amino acids
 91           (B) TYPE: amino acid
 92           (C) STRANDEDNESS: single
 W--> 93       (D) TOPOLOGY: Not Relevant
 95     (ii) MOLECULE TYPE: protein
100     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:
102      Ala Lys Ala Ile Thr Phe Gly Ile Leu Tyr Gly
103      1         5                   10
105 (2) INFORMATION FOR SEQ ID NO: 4:
107      (i) SEQUENCE CHARACTERISTICS:
108           (A) LENGTH: 11 amino acids
109           (B) TYPE: amino acid
110           (C) STRANDEDNESS: single
 W--> 111      (D) TOPOLOGY: Not Relevant
113     (ii) MOLECULE TYPE: protein
118     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:
120      Ala Lys Thr Phe Ile Tyr Gly Phe Leu Tyr Gly
121      1         5                   10
123 (2) INFORMATION FOR SEQ ID NO: 5:
125      (i) SEQUENCE CHARACTERISTICS:
126           (A) LENGTH: 11 amino acids
127           (B) TYPE: amino acid
128           (C) STRANDEDNESS: single
 W--> 129      (D) TOPOLOGY: Not Relevant
131     (ii) MOLECULE TYPE: protein
136     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:
138      Ala Lys Thr Ile Asn Phe Gly Val Leu Tyr Gly
139      1         5                   10
141 (2) INFORMATION FOR SEQ ID NO: 6:
143      (i) SEQUENCE CHARACTERISTICS:
144           (A) LENGTH: 11 amino acids
145           (B) TYPE: amino acid
146           (C) STRANDEDNESS: single
 W--> 147      (D) TOPOLOGY: Not Relevant
149     (ii) MOLECULE TYPE: protein
154     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:
156      Ala Lys Ala Ile Asn Phe Gly Leu Ile Tyr Gly
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RAW SEQUENCE LISTING   DATE: 05/21/2002
PATENT APPLICATION: US/09/558,421   TIME: 14:15:59

Input Set : N:\Crf3\RULE60\09558421.raw
Output Set: N:\CRF3\05212002\I558421.raw

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157      1              5                    10
159 (2) INFORMATION FOR SEQ ID NO: 7:
161       (i) SEQUENCE CHARACTERISTICS:
162            (A) LENGTH: 4 amino acids
163            (B) TYPE: amino acid
164            (C) STRANDEDNESS: single
W--> 165       (D) TOPOLOGY: Not Relevant
167       (ii) MOLECULE TYPE: protein
172       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:
174       Thr Phe Ile Tyr
175       1
177 (2) INFORMATION FOR SEQ ID NO: 8:
179       (i) SEQUENCE CHARACTERISTICS:
180            (A) LENGTH: 4 amino acids
181            (B) TYPE: amino acid
182            (C) STRANDEDNESS: single
W--> 183       (D) TOPOLOGY: Not Relevant
185       (ii) MOLECULE TYPE: protein
190       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:
192       Ala Ile Thr Phe
193       1
195 (2) INFORMATION FOR SEQ ID NO: 9:
197       (i) SEQUENCE CHARACTERISTICS:
198            (A) LENGTH: 4 amino acids
199            (B) TYPE: amino acid
200            (C) STRANDEDNESS: single
W--> 201       (D) TOPOLOGY: Not Relevant
203       (ii) MOLECULE TYPE: peptide
208       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:
210       Thr Ile Asn Phe
211       1
213 (2) INFORMATION FOR SEQ ID NO: 10:
215       (i) SEQUENCE CHARACTERISTICS:
216            (A) LENGTH: 45 base pairs
217            (B) TYPE: nucleic acid
218            (C) STRANDEDNESS: both
219            (D) TOPOLOGY: both
221       (ii) MOLECULE TYPE: cDNA
226       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:
228 TCAGGCTGCT AAAACATTCA TCTACGGTAT ACTGTATGGT TCTGG          45
230 (2) INFORMATION FOR SEQ ID NO: 11:
232       (i) SEQUENCE CHARACTERISTICS:
233            (A) LENGTH: 33 base pairs
234            (B) TYPE: nucleic acid
235            (C) STRANDEDNESS: both
236            (D) TOPOLOGY: both
238       (ii) MOLECULE TYPE: cDNA
243       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:
245 GTAGAGGACC CCGTAATTAA TGGTCTTGGC CGC                       33
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RAW SEQUENCE LISTING   DATE: 05/21/2002
PATENT APPLICATION: US/09/558,421   TIME: 14:15:59

Input Set : N:\Crf3\RULE60\09558421.raw
Output Set: N:\CRF3\05212002\I558421.raw

```
247 (2) INFORMATION FOR SEQ ID NO: 12:
249       (i) SEQUENCE CHARACTERISTICS:
250             (A) LENGTH: 11 amino acids
251             (B) TYPE: amino acid
252             (C) STRANDEDNESS: single
W--> 253        (D) TOPOLOGY: Not Relevant
255       (ii) MOLECULE TYPE: protein
260       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:
262       Gly Lys Met Val Asn Phe Ser Ile Ile Tyr Gly
263       1               5                   10
265 (2) INFORMATION FOR SEQ ID NO: 13:
267       (i) SEQUENCE CHARACTERISTICS:
268             (A) LENGTH: 4 amino acids
269             (B) TYPE: amino acid
270             (C) STRANDEDNESS: single
W--> 271        (D) TOPOLOGY: Not Relevant
273       (ii) MOLECULE TYPE: protein
277       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:
279       Met Val Asn Phe
280       1
282 (2) INFORMATION FOR SEQ ID NO: 14:
284       (i) SEQUENCE CHARACTERISTICS:
285             (A) LENGTH: 694 base pairs
286             (B) TYPE: nucleic acid
287             (C) STRANDEDNESS: double
288             (D) TOPOLOGY: both
290       (ii) MOLECULE TYPE: DNA (genomic)
293       (ix) FEATURE:
294             (A) NAME/KEY: CDS
295             (B) LOCATION: 2..694
298       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:
300 G GAT CCA GAC TGG TGG ATC GTC AGT GCG GAT TAT TCC CAA ATA GAA       46
301   Asp Pro Asp Trp Trp Ile Val Ser Ala Asp Tyr Ser Gln Ile Glu
302   1               5                   10                  15
304 CTC AGA ATC CTC GCT CAT CTC AGT GGT GAT GAG AAC CTT GTG AAG GCC    94
305 Leu Arg Ile Leu Ala His Leu Ser Gly Asp Glu Asn Leu Val Lys Ala
306               20                  25                  30
308 TTC GAG GAG GGC ATC GAT GTG CAC ACC TTG ACT GCC TCC AGG ATC TAC   142
309 Phe Glu Glu Gly Ile Asp Val His Thr Leu Thr Ala Ser Arg Ile Tyr
310               35                  40                  45
312 AAC GTA AAG CCA GAA GAA GTG AAC GAA GAA ATG CGA CGG GTT GGA AAG   190
313 Asn Val Lys Pro Glu Glu Val Asn Glu Glu Met Arg Arg Val Gly Lys
314               50                  55                  60
317 ATG GTG AAC TTC TCT ATA ATA TAC GGT GTC ACA CCG TAC GGT CTT TCT   238
318 Met Val Asn Phe Ser Ile Ile Tyr Gly Val Thr Pro Tyr Gly Leu Ser
319               65                  70                  75
321 GTG AGA CTT GGA ATA CCG GTT AAA GAA GCA GAA AAG ATG ATT ATC AGC   286
322 Val Arg Leu Gly Ile Pro Val Lys Glu Ala Glu Lys Met Ile Ile Ser
323 80                  85                  90                  95
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RAW SEQUENCE LISTING   DATE: 05/21/2002
PATENT APPLICATION: US/09/558,421   TIME: 14:15:59

Input Set : N:\Crf3\RULE60\09558421.raw
Output Set: N:\CRF3\05212002\I558421.raw

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325 TAT TTC ACA CTG TAT CCA AAG GTG CGA AGC TAC ATC CAG CAG GTT GTT    334
326 Tyr Phe Thr Leu Tyr Pro Lys Val Arg Ser Tyr Ile Gln Gln Val Val
327             100                 105                 110
329 GCA GAG GCA AAA GAG AAG GGC TAC GTC AGG ACT CTC TTT GGA AGA AAA    382
330 Ala Glu Ala Lys Glu Lys Gly Tyr Val Arg Thr Leu Phe Gly Arg Lys
331             115                 120                 125
333 AGA GAT ATT CCC CAG CTC ATG GCA AGG GAC AAG AAC ACC CAG TCC GAA    430
334 Arg Asp Ile Pro Gln Leu Met Ala Arg Asp Lys Asn Thr Gln Ser Glu
335             130                 135                 140
338 GGC GAA AGA ATC GCA ATA AAC ACC CCC ATT CAG GGA ACT GCG GCA GAT    478
339 Gly Glu Arg Ile Ala Ile Asn Thr Pro Ile Gln Gly Thr Ala Ala Asp
340         145                 150                 155
342 ATA ATA AAA TTG GCT ATG ATA GAT ATA GAC GAG GAG CTG AGA AAA AGA    526
343 Ile Ile Lys Leu Ala Met Ile Asp Ile Asp Glu Glu Leu Arg Lys Arg
344 160                 165                 170                 175
346 AAC ATG AAA TCC AGA ATG ATC ATT CAG GTT CAT GAC GAA CTG GTC TTC    574
347 Asn Met Lys Ser Arg Met Ile Ile Gln Val His Asp Glu Leu Val Phe
348             180                 185                 190
350 GAG GTT CCC GAT GAG GAA AAA GAA GAA CTA GTT GAT CTG GTG AAG AAC    622
351 Glu Val Pro Asp Glu Glu Lys Glu Glu Leu Val Asp Leu Val Lys Asn
352             195                 200                 205
354 AAA ATG ACA AAT GTG GTG AAA CTC TCT GTG CCT CTT GAG GTT GAC ATA    670
355 Lys Met Thr Asn Val Val Lys Leu Ser Val Pro Leu Glu Val Asp Ile
356             210                 215                 220
358 AGC ATC GGA AAA AGC TGG TCT TGA                                    694
359 Ser Ile Gly Lys Ser Trp Ser
360         225                 230
363 (2) INFORMATION FOR SEQ ID NO: 15:
365         (i) SEQUENCE CHARACTERISTICS:
366                 (A) LENGTH: 230 amino acids
367                 (B) TYPE: amino acid
368                 (D) TOPOLOGY: linear
370         (ii) MOLECULE TYPE: protein
372         (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 15:
374 Asp Pro Asp Trp Trp Ile Val Ser Ala Asp Tyr Ser Gln Ile Glu Leu
375   1               5                  10                 15
377 Arg Ile Leu Ala His Leu Ser Gly Asp Glu Asn Leu Val Lys Ala Phe
378             20                  25                 30
380 Glu Glu Gly Ile Asp Val His Thr Leu Thr Ala Ser Arg Ile Tyr Asn
381             35                  40                 45
383 Val Lys Pro Glu Glu Val Asn Glu Glu Met Arg Arg Val Gly Lys Met
384     50                  55                 60
386 Val Asn Phe Ser Ile Ile Tyr Gly Val Thr Pro Tyr Gly Leu Ser Val
387 65                  70                  75                 80
389 Arg Leu Gly Ile Pro Val Lys Glu Ala Glu Lys Met Ile Ile Ser Tyr
390                 85                  90                 95
393 Phe Thr Leu Tyr Pro Lys Val Arg Ser Tyr Ile Gln Gln Val Val Ala
394             100                 105                 110
396 Glu Ala Lys Glu Lys Gly Tyr Val Arg Thr Leu Phe Gly Arg Lys Arg
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VERIFICATION SUMMARY
PATENT APPLICATION: US/09/558,421

DATE: 05/21/2002
TIME: 14:16:00

Input Set : N:\Crf3\RULE60\09558421.raw
Output Set: N:\CRF3\05212002\I558421.raw

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L:27 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
L:93 M:246 W: Invalid value of Alpha Sequence Header Field, [TOPOLOGY:], SeqNo=3
L:111 M:246 W: Invalid value of Alpha Sequence Header Field, [TOPOLOGY:], SeqNo=4
L:129 M:246 W: Invalid value of Alpha Sequence Header Field, [TOPOLOGY:], SeqNo=5
L:147 M:246 W: Invalid value of Alpha Sequence Header Field, [TOPOLOGY:], SeqNo=6
L:165 M:246 W: Invalid value of Alpha Sequence Header Field, [TOPOLOGY:], SeqNo=7
L:183 M:246 W: Invalid value of Alpha Sequence Header Field, [TOPOLOGY:], SeqNo=8
L:201 M:246 W: Invalid value of Alpha Sequence Header Field, [TOPOLOGY:], SeqNo=9
L:253 M:246 W: Invalid value of Alpha Sequence Header Field, [TOPOLOGY:], SeqNo=12
L:271 M:246 W: Invalid value of Alpha Sequence Header Field, [TOPOLOGY:], SeqNo=13
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L:526 M:246 W: Invalid value of Alpha Sequence Header Field, [TOPOLOGY:], SeqNo=21
L:562 M:246 W: Invalid value of Alpha Sequence Header Field, [TOPOLOGY:], SeqNo=22
L:580 M:246 W: Invalid value of Alpha Sequence Header Field, [TOPOLOGY:], SeqNo=23
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